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ABSTRACT

Goals, objectives, activities, and accomplishments of the guidance component of Project CAREER (Computer Assisted Research for Educational Relevance) are documented in the report. The purpose of the component was to develop a series of transportable models for enhancing career awareness, career exploration, and career-skill development at the elementary, junior high, and secondary grade levels respectively. Products and useful tools resulting from the project research (done in three Massachusetts pilot school systems) include: Workshop manuals for establishing career information centers, "Careerograms," "Sample Products in Elementary Guidance," an evaluation for "A Pilot Career Oriented Program for Middle School," "Career Cache Kit," and a visual career information file. Job descriptions of career information center personnel and a list of behavioral objectives for the three grade levels are also given.
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FINAL REPORT

Project No. V 261039 L
Grant No. OEG-0-72-4651

Project CAREER/Guidance
Research and Development Project
in Career Education

Conducted Under
Part C of Public Law 90-576

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Vincent P. Lamo
Project CAREER
301 North Main Street
Randolph, Massachusetts 02368

January 15, 1975

FINAL REPORT

Project No. V 261039 L
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Research and Development Project
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The project reported herein was performed pursuant to a grant from the Bureau of Occupational and Adult Education, Office of Education, U.S. Department of Health, Education, and Welfare. Grantees undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Vincent P. Lamo
Project CAREER
301 North Main Street
Randolph, Massachusetts 02368

January 15, 1975

Volume IV
Project CAREER/Guidance

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FOREWORD

The approach to this document, in reporting the procedures developed and the accomplishments made over the past three years of Project CAREER, was to trace the historical development as objectives and activities were defined, refined, expanded, and revised. The major, over-riding goal of the Project, of course, has remained the same: to develop a program or a system which will facilitate the acquisition of marketable skills by all students at all levels. The major purpose of the Project has always been to provide data which will serve career development needs in the public schools.

Each of the major volumes focuses on one of the four elements or components of the Project which have evolved over the three years: Development, CAN, Handicapped, and Guidance. Each volume follows the same format outline and contains a global, yet comprehensive, overview of the objectives, activities (procedures), and results of that component. Finally, each volume concludes with recommendations for the future and samples of specific products developed. (In some cases, due to bulk, lists of available products are included).

The evaluation section of each volume was written by the Third Party Evaluator, NEESI (National Educational Evaluation Services, Inc., Newton, Massachusetts).

An important note is that the very nature of research and development reflects experiment, revision, and change. This Final Report, presented in four volumes, represents the research and development, the gradual refinement and expansion of Project CAREER over the past three years. The results of the Project, the products established, reflect our degree of success. With the provision of this curriculum data, we lead educators to the next step - its implementation and impact.

Summary of the Report

This report covers the time period from June 1, 1972 to June 30, 1974 (The original grant was funded from June 1, 1972 to November 30, 1973; however, a no-cost time extension was granted in June, 1973 in order that the Guidance Component would come to a logical conclusion with Project CAREER/Development and that its evaluation would be done in light of the pilot testing of the three LEAs which commenced in September, 1973).

The basic Guidance objectives have been to:

1. Establish the means for identifying and integrating appropriate occupational information, generic skills, knowledges and concepts basic to a wide range of clustered occupations, into the elementary grades K-6 on a pilot base.
2. Develop meaningful hands-on activities, that bring an accurate representation of the world of work into the classroom role playing, field trips, community resource people, and related subject matter.
3. Establish transportable models for the utilization and exploration by all teachers of the newly developed career awareness materials.
4. Coordinate Project CAREER measurable skill development information in a wide variety of clustered occupations for student, counselor, parent and teacher usage.
5. Develop in conjunction with Project CAREER a computer-assisted career information center in selected educational environments.
6. Operate the Career Information Center with computer output from Project CAREER and with available world of work information designed to allow students to personally explore a wide variety of career opportunities (B.L.S., D.E.S., Manpower, and Community Center Resources). Develop diagrams, maps and graphs of representative occupations showing minimum instructional competency levels and related occupational options.
7. Develop hands-on materials designed to assist career planning and decision making such as performance objective outlines that allow a student to manually plan and visually explore the instructional programs of choice from a broad area of instructional career options.

8. Develop for counselors, cooperative coordinators and students materials designed to facilitate the placement of an exiting student in an entry level job, an advanced skill development program or an appropriate baccalaureate degree granting institution.
9. Develop for use at every level of instruction appropriate activities and materials designed to encourage the student to evaluate self in relation to the world of work at large, his community and his own developing interests, attitudes and skills.

In order to meet these objectives, procedures included the selection of school systems and guidance teams, in-service training (career education workshops), and continuous monitoring and consultation as products and programs were designed and implemented in the schools. Specific activities are listed in the body of the report. Sample products appear as appendices and represent the direct results and accomplishments of the teams' activities. A number of additional documents are available upon request.

As is the case for each volume of this final report, the Third Party Evaluator, NEESI, has written Section 5 - Evaluation.

The conclusion and recommendations of this volume tie in closely with the activities of the base Project CAREER as well as the overall circumstances of career guidance which exist in the pilot schools. In general, however, the impact of the Project CAREER services and products on the guidance programs in the three pilot school systems has proved significant and sheds light on a productive, effective future for Project CAREER in many more schools.

1. Problem

The overall problem toward which Project CAREER/Guidance addressed itself was the development of a series of transportable models for enhancing career awareness, career exploration and career-skill development at the elementary, junior high, and secondary grade levels respectively. These models were conceived to include:

- (a) The use of a data bank of computerized, occupationally-oriented and validated performance objectives covering representative occupations in each of the 15 USOE job clusters.
- (b) The conceptualization and development of Career Information Centers in three different school systems, each one typifying,
 - (1) an urban LEA (Springfield, Mass.)
 - (2) a comprehensive LEA (Milford, Mass.)
 - (3) a regional vocational-technical school (Blue Hills Regional Vocational-Technical School, Canton, Mass. and a few of its feeder schools - Braintree, Randolph, and Holbrook, Mass., elementary and junior high schools).

Each of the information centers were to develop model techniques for delivery and use of a data bank of performance objectives, plus traditional guidance materials by the districts' participants including students, teachers, counselors, and administrators. In further explanation, the model planned at the junior-senior high level contemplated the use of the computerized data bank in course selection, career planning, and job placement.

- (c) The development of one or more models for documenting, storing, and retrieval of students' accomplished skills as these skills related to a specific occupation.
- (d) The development of one or more models and samples thereof of curriculum integration of academic subjects with the concepts of career education and career development at the elementary, junior high and senior high levels.

The need for such an approach is well documented in the literature concerning career development and "relevance" in education. Robert Worthington, writing in Educational Digest (Sept. 1972, p. 2) pointed out that in every section of the country, a significant number of schools are seeking to re-orient and broaden their purposes. He says, "Their common goal is to respond to the students specific, individual educational needs in a manner that serves his long term aspiration for a satisfying and meaningful life after his schooling has ended." That schools have not been doing a very good job of meeting these needs for non-college bound students has been attested to by numerous authorities. Sidney Marland, former U.S. Commissioner of Education wrote in American Education (Aug. 1972, pp. 26-27).

...Despite American education's unquestioned accomplishments, it can take little credit for its performance in making sure that no one leaves school unprepared to hold a decent job. Just about half the U.S. students, in the order of $1\frac{1}{2}$ million any given year are involved in schooling which prepares them neither for college nor careers. Three out of every ten high school students go into higher education. One third of that figure will drop out and a depressing proportion of the remainder will leave with degree in hand but no clear cut idea in mind of what to do with it.

There are other authorities who maintain essentially the same position; the National Commission on the Reform of Secondary Education, Eli Gruzberg, one of the early pioneers in the field of career development, Donald Super, Samuel Ossipow and Frank Parsons, the founder of the vocational guidance movement in this country. All of these authorities agree in essence that positive and satisfying career development lies in accurate knowledge of self, accurate knowledge of the occupation under consideration, and the accurate synthesis made between the two bodies of knowledge by the person making the choices.

2. Goals and Objectives

Project CAREER/Guidance Objectives:

1. Establish the means for identifying and integrating appropriate occupational information, generic skills, knowledges and concepts basic to a wide range of clustered occupations, into the elementary grades K-6 on a pilot base.
2. Develop meaningful hands-on activities that bring an accurate representation of the world of work into the classroom by role

- playing, field trips, community resource people, and related subject matter.
3. Establish transportable models for the utilization and exploration by all teachers of the newly developed career awareness materials.
 4. Coordinate Project CAREER measurable skill development information in a wide variety of clustered occupations for student, counselor, parent and teacher usage.
 5. Develop in conjunction with Project CAREER a computer-assisted career information center in selected educational environments.
 6. Operate the Career Information Center with computer out-put from Project CAREER and with available world of work information designed to allow students to personally explore a wide variety of career opportunities (B.L.S., D.E.S., Manpower, and Community Center Resources). Develop diagrams, maps and graphs of representative occupations showing minimum instructional competency levels and related occupational options.
 7. Develop hands-on materials designed to assist career planning and decision making, such as performance objective outlines, that allow a student to manually plan and visually explore the instructional programs of choice from a broad area of instructional career options.
 8. Develop for counselors, cooperative coordinators and students materials designed to facilitate the placement of an exiting student in an entry level job, an advanced skill development program, or an appropriate baccalaureate degree granting institution.
 9. Develop for use at every level of instruction appropriate activities and materials designed to encourage the student to evaluate self in relation to the world of work at large, his community and his own developing interests, attitudes and skills.

3. General Project Design and Procedures

With reference to the general project design of Project CAREER/Guidance, the following plan was adopted:

1. Invite school systems throughout Massachusetts meeting the criteria of:

- (a) Regional Vocational-Technical School District
- (b) Comprehensive High School System
- (c) Urban School System

to apply to work with Project CAREER in the entire experiment.

2. Select one of each type of school system with which to work.
3. Form small teams of teachers (3 - 5 people) from the elementary, junior high, and secondary school levels along with a coordinator for each group. (See Appendices 1-6 - Job Descriptions of these staff members).
4. Provide the necessary in-service training via workshops of varying lengths of career education - career development concepts.
5. Have these groups set their goals and objectives consistent with overall Project CAREER/Guidance goals and objectives.
6. Implement an ongoing supportive monitoring mechanism via a Project CAREER/Guidance staff member (Project CAREER Guidance Coordinator - PCGC) to insure that stated goals and objectives were being met and to act as a resource for all of the groups in the Project CAREER/Guidance effort. (See Appendix 7 for the PCGC job description).
7. Conduct ad-hoc workshops addressed to the needs of the various groups as they become evident.

With reference to the student population and a description of the three differing school systems, the following details are noted:

The Springfield School System is organized on a K-6, 3-3 plan with 17,679 elementary and 13,664 secondary students housed in 36 elementary, seven junior high, and four senior high school buildings. Forty-three percent of the elementary and thirty-three percent of the secondary enrollment are housed in schools built within the past 25 years. Two new large community-type elementary schools are in the final planning stage.

The high school program is organized around four specialized schools in each of the following areas: classical, technical, commercial, and trade. In addition to its specialty, each school conducts a limited comprehensive program. Data on the complex of schools which comprise this project site are provided in Table 1, below.

Level	No. of schools involved	No. of teachers	No. of counselors	No. of pupils
Elementary	3	10	0	300
Junior High	2	15	3	350
Senior High	2	25	6	500

The Springfield School System has, for many years, operated a strong occupational education program, along traditional lines, in their Trade and Technical High Schools. However, in the Classical and Commerce High Schools, virtually no occupational preparation and/or counseling exists. There is a vital need in Springfield for the implementation of a career development program, consistent with the philosophies of a true comprehensive high school, but initially adapted to the particular resources of the four specialized high schools. A vigorous guidance function will be required to initiate and maintain these changes, particularly in the face of an high school drop-out numbering over 500. This group, the size of many high schools, is for the most part unprepared for, and not oriented toward the world of work.

The Milford Schools System's present enrollment for K-12 is 3,500, with 1,000 students housed in a senior high school that was originally constructed for a maximum population of 600. Data on the Milford schools, teachers, and pupils which will comprise this pilot city are provided in Table 2, below.

Level	No. of schools involved	No. of teachers	No. of counselors	No. of pupils
Elementary	4	8	0	240
Junior High	1	10	3	250
Senior High	1	16	3	600

Under the present system, 40% of the Milford graduating classes are entering the work world with virtually no occupational training, since the present limitations of space have not permitted expansion of a significant occupational program. The absence of relevant course offerings can be reflected in a high drop-out rate (10%).

Milford's decision to involve itself with creating appropriate occupational programs has been demonstrated by its weekly in-service career development workshops conducted for its entire instructional staff. The town's dedication is also exemplified by its decision to build a \$15 million comprehensive high school centered around occupational education. The high acceleration of school enrollment in grades 9-12 can be gauged by the

fact that Milford will realize its 1974-75 estimated enrollment of 1,066 in February of 1972. With accelerated growth expected for some time, the need for a career development program with a strong guidance emphasis in Milford is a necessity.

The Blue Hills Regional Vocational-Technical School (BHRVTS) Region encompasses the seven towns of Westwood, Randolph, Norwood, Holbrook, Canton, Braintree, and Avon. The total district population for this region is approaching 150,000 persons.

The Blue Hills Regional Vocational-Technical School presently enrolls 830 high school students out of a total regional high school population of over 10,000. The percentage of students receiving specific occupational preparation at BHRVTS, versus the total available population, is only 8.3%.

In an effort to assist BHRVTS in developing and enlarging a career education thrust into regional feeder schools, Project CAREER and its career guidance component proposes to establish, in one selected feeder school, a model K-12 pilot program in career development. In addition, to help establish a seed program in the lower grades of each of the regional feeder school programs, one teacher from each of the elementary school staffs will be selected to attend a series of summer conferences and workshops. Here, workshops will be designed to prepare them to institute an exemplary elementary school career education program within each school district. It is anticipated that this approach will provide a model for the Commonwealth to employ in introducing career education into regional school districts. Demographic data on the specific sites are not available since the final stages of selection are not yet completed. Including the instructional and counseling staff at the Blue Hills Regional Vocational-Technical School, the data on the projected complex of schools which will comprise this site are provided in Table 3.

Level	No. of schools involved	No. of teachers	No. of counselors	No. of pupils
Elementary	7	10	0	300
Jr. High	2	12	2	720
Sr. High	1	14	3	840
BHRVTS	1	10	2	300

Each of the three pilot school systems in the past five years has recognized the growing need to diversify their educational programs in order to satisfy the instructional needs of a wide range of student

interest and abilities. Thus, each system has applied for and been accepted as a pilot site for the testing and implementation of the Project CAREER process.

With reference to the instructional staff who were selected, their appropriate job descriptions follow:



COMPUTER ASSISTED RESEARCH FOR EDUCATIONAL RELEVANCE

301 north main street -- randolph, massachusetts 02368 (617) 963-8653

Vincent P. Lamo
Director

JOB DESCRIPTION: Project CAREER/Guidance

Job Title: Project CAREER Senior High Career Information Committee Member
(2 positions).

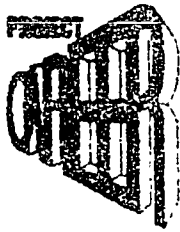
Period of Employment: Seventeen (17) working days beginning Monday, June 25, 1973.

General: Workshop will be structured into developmental and sequential segments lasting from one to five days with the overall goal being the understanding and use of Project CAREER computerized data at respective grade levels. It will be held in respective LEAs and monitored and/or conducted by Project CAREER staff with appropriate consultants. The first one and one half days will be devoted to a joint orientation session and this will be at a mutually convenient location.

Duties: Develop a working knowledge of Project CAREER 7-part behavioral objectives; develop a working knowledge of the Project CAREER 4-column process; develop an operational student file that will allow a student and counselor to monitor progress of accomplished behavioral objectives in pilot courses and beyond; interrelate the student file information (Project CAREER data) with Career-O-Gram and Job Profile Information for the 74 Project CAREER occupations; participate in the establishment of means for assessing the work of counselor-teacher teams in the pilot test; participate in the development of pre and post evaluative techniques at the secondary level.

Expected Products: (1) Operational student file; (2) written outline of plans for interrelating student file data and Project CAREER data; (3) list of possible evaluative techniques to be used for pre and post assessment of student performance in relation to Project CAREER data; (4) LAP showing the accessing, retracing, and multiple uses in occupational pilot labs (to be done in conjunction with secondary group). This LAP will contain counseling functions and activities, student interactive materials, and demonstrate a clear relationship to a subject area; and (5) list of evaluative techniques for assessing and improving overall functioning of C.I.C. with heavy (although not exclusive) emphasis on Project CAREER data.

Salary: Commensurate with established local school policy.



COMPUTER ASSISTED RESEARCH FOR EDUCATIONAL RELEVANCE

301 north main street -- randolph, massachusetts 02368 -- (617) 963-8653

Vincent P. Lamo
Director

DESCRIPTION: Project CAREER/Guidance

Job Title: Project CAREER Senior High Career Education Coordinator (1 position).

Period of Employment: Seventeen (17) working days beginning Monday, June 25, 1973.

General: Workshop will be structured into developmental and sequential segments lasting from one to five days with the overall goal being the understanding and use of Project CAREER computerized data at respective grade levels. It will be held in respective LEAs and monitored and/or conducted by Project CAREER staff with appropriate consultants. The first one and one half days will be devoted to a joint orientation session and this will be at a mutually convenient location.

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In addition to the above duties, the coordinator will be responsible for the necessary activities in the areas of monitoring, coordinating, and resource leadership with relation to the desired work products of the group. He will also actively interface in a liaison capacity with Project CAREER staff to insure the effective completion of the above products.

Expected Products: (1) Operational student file; (2) written outline of plans for interrelating student file data and Project CAREER data; (3) list of possible evaluative techniques to be used for pre and post assessment of student performance in relation to Project CAREER data; (4) LAP showing the accessing, retracing, and

Senior High Career Education Coordinator (Continued)

multiple uses in occupational pilot labs (to be done in conjunction with secondary group). This LAP will contain counseling functions and activities, student interactive materials, and demonstrate a clear relationship to a subject area; and (5) list of evaluative techniques for assessing and improving overall functioning of C.I.C. with heavy (although not exclusive) emphasis on Project CAREER data.

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301 north main street -- randolph, massachusetts 02368 -- (617) 963-8653

Vincent P. Lamo
Director

JOB DESCRIPTION: Project CAREER/Guidance

Job Title: Project CAREER Junior High Career Information Committee Member
(2 positions).

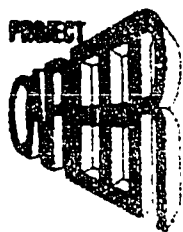
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Duties: Develop a working knowledge of Project CAREER 7-part behavioral objectives; develop a working knowledge of the Project CAREER 4-column process; develop an operational student file containing information based on Project CAREER and other data that will enable counselors to assist students to make planful decisions regarding his/her high school choice of curricula; interrelate this data with Career-O-Gram and Job Profile Information for the 74 Project CAREER occupations; participate in the establishment of means for assessing the work of counselor-teacher teams in the pilot test; participate in the development of pre and post evaluative techniques at the junior high school level.

Expected Products: (1) Operational student file; (2) written outline of plans for interrelating student file data and Project CAREER data; (3) list of possible evaluative techniques to be used for pre and post assessment of student performance in relation to Project CAREER data; (4) LAP showing the accessing, retracing, and multiple uses in occupational pilot labs (to be done in conjunction with secondary group). This LAP will contain counseling functions and activities, student interactive materials, and demonstrate a clear relationship to a subject area; and (5) list of evaluative techniques for assessing and improving overall functioning of C.I.C. with heavy (although not exclusive) emphasis on Project CAREER data.

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301 north main street - randolph, massachusetts 02368 - (617) 963-8653

Vincent P. Lamo
Director

JOB DESCRIPTION: Project CAREER/Guidance

Job Title: Project CAREER Junior High Career Education Coordinator (1 position).

Period of Employment: Seventeen (17) working days beginning Monday, June 25, 1973.

General: Workshop will be structured into developmental and sequential segments lasting from one to five days with the overall goal being the understanding and use of Project CAREER computerized data at respective grade levels. It will be held in respective LEAs and monitored and/or conducted by Project CAREER staff with appropriate consultants. The first one and one half days will be devoted to a joint orientation session and this will be at a mutually convenient location.

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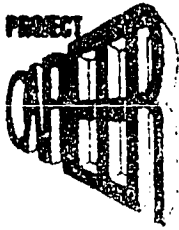
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Junior High Career Education Coordinator (Continued)

multiple uses in occupational pilot labs (to be done in conjunction with secondary group). This LAP will contain counseling functions and activities, student interactive materials, and demonstrate a clear relationship to a subject area; and (5) list of evaluative techniques for assessing and improving overall functioning of C.I.C. with heavy (although not exclusive) emphasis on Project CAREER data.

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301 north main street - randolph, massachusetts 02368 - (617) 963-8653

Vincent P. Lamo
Director

JOB DESCRIPTION: Project CAREER/Guidance

Job Title: Project CAREER Elementary Career Education Committee Member.
Number of Positions - depending on local school district.

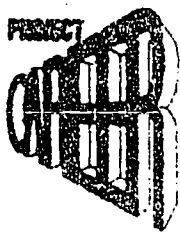
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Duties: Develop a working knowledge of Project CAREER 7-part behavioral objectives; develop a working knowledge of Project CAREER 4-column process; develop plans which feature classroom hands-on activities, materials, and units using Project CAREER data; develop pre and post evaluative techniques for assessing and improving delivery vehicles and methods to elementary students.

Expected Products: (1) Written plans for appropriate elementary classroom activities demonstrating the retracing of prerequisite learnings and basic concepts from Project CAREER behavioral objectives; (2) actual integrated lesson plans beginning with Project CAREER data and developing into hands-on classroom activities bearing a clear relationship to subject-related areas; and (3) list of evaluative techniques for assessing the effectiveness of these activities on the career awareness of elementary students.

Salary: Commensurate with established local school policy.



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Director

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Job Title: Project CAREER Elementary Career Education Coordinator.

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Expected Products: (1) Written plans for appropriate elementary classroom activities demonstrating the retracing of prerequisite learnings and basic concepts from Project CAREER behavioral objectives; (2) actual integrated lesson plans beginning with Project CAREER data and developing into hands-on classroom activities bearing a clear relationship to subject-related areas; and (3) list of evaluative techniques for assessing the effectiveness of these activities on the career awareness of elementary students.

Salary: Commensurate with established local school policy.

With reference to the methods, materials, instruments and techniques used in the implementation of the activities, the primary method for the development of the model techniques was small group collaboration in the respective LEA area team, paid weekly meetings, chaired by the senior professional of the group who had been designated as coordinator. The materials used were Project CAREER performance objectives when they become available, the Dictionary of Occupational Titles, the Occupational Outlook Handbook, job and task analyses and portions of the usual traditional guidance materials. Wherever funds were available there was a career information center Director, frequently the Coordinator of the junior and senior high group, depending on the location of the center. In terms of the techniques of intra-system dissemination, the chief mechanism was one of system-wide workshops, addressed to needs as they arose, plus the summer workshops of considerable scope. Also, in two of the three districts, Springfield and Blue Hills, the Project was able to recruit and financially support, in large measure, a system-wide coordinator. With reference to intra-system sharing of ideas, products, and concepts, this was the province of all Project CAREER staff and more specifically, the Project CAREER Guidance Coordinator (PCGC). Again, these efforts were strongly supported by the two large conferences, one held at Westfield State College, Westfield, Mass. in the summer of 1972 and the other at the Framingham Motor Inn, Framingham, Mass. in the summer of 1973. Copies of the 1973 Summer Conference Report are included with the packet of Project products.

4. Results and Accomplishment

The results and accomplishments of this research can be divided into two categories: (1) quantitative products -- specific guidance materials such as tools and documents, and (2) theoretical models to enhance the awareness and utilization of career education concepts and approaches.

In the first category, an annotated list of products is the simplest and most logical approach. (Due to bulk, four comprehensive packets of all these materials, or at least descriptions of some, will be sent to Washington with this report narrative. Multiple copies are available upon request.)

1. Workshop Manuals

a. "Career Information Centers"

This manual was designed to convey, in documented form, the informational essence of our workshop on Career Information Centers -- their functions, operation, and suggested contents. This document has been produced primarily as a resource to educators interested in establishing a center to house informative job and career materials for students.

Project CAREER/Guidance directed and supported the establishment of one or more Career Information Centers in each of the three pilot school systems, in addition to extensive in-service work with personnel in order to effectively operate these centers. The existence and proper functioning of these centers have been of significant benefit to the students of these three school systems. A further document enclosed here describes the specific activities performed in relation to the establishment and operation of the Career Information Center at the Forest Park Junior High School in Springfield.

b. The Dictionary of Occupational Titles -- "A Basic Tool for Counselors and Teachers"

This manual was created to assist educators in understanding and affectively using the somewhat complicated DOT, an important resource document containing a wealth of information about thousands of occupations. The contents of this manual represent a guided, step by step exercise in the DOT utilization.

2. "Sample Products in Elementary Guidance" -- Blue Hills, Milford, Springfield

This document is an overview of a compilation of sample activities developed by the Elementary Guidance Teams in the three pilot school systems. Contained in this document are a number of learning activities (based upon the performance objectives supplied by Project CAREER) which were developed into learning modules and units. These activities proved to be valuable tools for creating self awareness and career awareness within the participating classrooms.

3. "Careerograms"

- a. "Careerograms for the 122 Project CAREER Occupations"

The Career Preparation Analysis Chart or "Careerogram" is a visual device which synthesizes the information contained in the many volumes of the Dictionary of Occupational Titles, as well as the Occupational Outlook Handbook. It is designed for use by counselors of high school age or older. Information is abstracted from various sources and presented in the graphic format of a chart.

This document contains careerograms for the 122 occupations under investigation by Project CAREER.

- b. Career Cluster Charts

An additional two hundred careerograms were done in relation to career areas or "fields" including: structural wood, architecture, automotive, business, health, electrical.

- c. "Instructions for the Development of Career Preparation Analysis Charts (Careerograms)"

"Careerograms" are seen as one example of how schools can acquaint students with occupations and careers in an easily accessible, manageable, and comprehensive approach. This very explicit set of instructions can be of significant assistance in the understanding and preparation of career analysis charts.

4. Evaluation for "A Pilot Career Oriented Program for Middle School"

This document introduces an approach to instruction, used by local personnel, "...which was more meaningful by showing a direct relation between math concepts and career job skills." This document indicates the flexible variables in their format as well as an evaluation comparative analysis (pre and post tests). This information represents a significant example of how a career guidance approach could be formulated at the middle school (exploration) level.

5. "Career Cache Kit"

The "Career Cache Kit" contains a profile on selected careers in the electrical cluster. Information is compiled from the "Careerograms" (see #3) and organized in a metal, orange box containing five drawers. The card system within each drawer is designed to include information about each occupation in a sequence of greater detail. (A variety of visual and sample materials are attached to this report. The materials give a complete history of the "kit" and an illustration of its physical construction and use.)

The significant implications of this kit are: (1) The "Kit" represents a spontaneous feedback system to students by being housed in the classroom - this counseling experience is shared in the classroom as actual skill development is related immediately and directly to occupations, and (2) The kit represents a very quick and easy delivery system of information to students. The information itself is not new, but the model for bringing the information to students is the significant accomplishment.

6. Visual Career Information File

This set of slides was organized by subject area to offer a visual presentation to guidance personnel of the terms used by Project CAREER, their relationship to the data bank, and their potential use. An overview of the information contained in these slides appears in the set of products submitted with this report.

In the second category of accomplishments, the results are less quantifiable. The development of and a sensitization to the concepts and insights of positive and desirable career education has been ingrained throughout the efforts of Project CAREER/Guidance. In working with school personnel, the attempt has been to highlight the relationship between learning (on a daily, continuous basis) to working. School personnel

were encouraged to analyze their problems and needs, and were guided toward seeing the need to integrate educational activities with world of work requirements. Thus, along with the objective development of specific materials, a more subjective development of attitude and approach was also accomplished.

A further result was the understanding and utilization, among local personnel, of performance objectives as a technical tool in both guidance and curriculum development. Numerous workshops resulted in the appreciation and benefit of the utilization of performance objectives. This utilization can be seen clearly in the "Sample Products" developed by the three school systems.

Thus, the results and accomplishments have been numerous and significant in terms of "transportable" products -- implications for other schools within the Commonwealth and across the country.

List of Products:

1. Workshop Manual-Career Information Centers
2. Workshop Manual DOT
3. Sample Products - "Elementary Guidance"
4. Project CAREER - 122 Careerograms
5. Career Cluster Chart
6. "Instructions for Development of Careerograms"
7. Evaluation for "A Pilot Career Oriented Program for Middle School"
8. Information about "Career Cachet Kit"
9. Overview of Visual Center Information File
10. 1973 Summer Conference Report

6. Conclusions, Implications, and Recommendations

The overall hypothesis woven through the Guidance component's proposed intent and subsequent activities always has been: The general functioning of "Career Guidance", as it exists in schools today, is in crucial need of valid, comprehensive occupational information which is logically organized and deliverable to students. The major conclusion reached after months of work in the three pilot school systems is that the original hypothesis is, in fact, true. The kinds of information available to and accessible by students are for the most part, incomplete and inaccurate. In many cases, effective systems for the delivery of information to students is virtually nonexistent. Guidance personnel are in clear need of materials and approaches which would equip them to effectively assist students in career decision-making.

During the past two years of activities Project CAREER/Guidance has developed, through the creative effort of the pilot school teams, a number of vehicles which address these counseling needs. Career information centers, careerograms, workshop manuals, and elementary level programs are among those specific, important tools now available to guidance personnel as a result of this research. The implication is that, when supported with properly organized resources, guidance people are the most appropriate personnel to initiate their own materials to meet their own needs. And further, now that the development of these tools has begun, utilization in more programs is enhanced.

Injection of the base data (from the parent Project CAREER/Development) into the developed guidance systems has greatly impacted their substance and effect. Task outlines offer overviews in a broad range of clusters, and the performance objective print-outs have been utilized in constructing career awareness and exploration programs at the elementary and junior high level. Thus, a broader, more general base of information such as a computerized bank of skill statements can function as a valuable resource in career guidance.

Two basic recommendations emerge as a result of this research in guidance. First, systems for utilization should be expanded and disseminated to a greater number of schools. And second, a fully articulated kindergarten - adult career guidance program should be developed using this initial research as an initiating base. A significant beginning has been made by Project CAREER/Guidance in revitalizing the function of career guidance and directing those operations toward true world of work benefits for students. Career guidance has the dual potential of (1) relating learning to working during the preparational years, and (2) providing for a smooth transition between learning and working at the time of exit from school. Project CAREER/Guidance has provided a substantial start.

Appendix 1

Title: Elementary Career Education Co-ordinator

Period of employment: 6/1/72 to 11/1/73

Description of employment: The overall responsibility of the Elementary Career Education Co-ordinator (ECEC) will be to lead a team of six elementary teachers in the development, utilization, and evaluation of career education units in the elementary grades.

The responsibility of the ECEC will focus on activities during the three time segments; (A) Late Spring and Summer of 1972; (B) The 1972-1973 school year; and (C) The Summer and Fall of 1973. During the late spring of 1972 the ECEC will work on a part-time basis with the Project CAREER Staff to review materials that could be developed into appropriate "hands-on" activities. Employment on a full-time basis will take place for five weeks during the Summer of 1972. A majority of this time will be spent in a workshop setting for the purpose of: (A) Evaluating methods of presenting career awareness materials to elementary students; (B) Building a K-6 program model for utilizing materials developing during the summer and the ensuing school year; and (C) Constructing career development units for elementary students, including Project CAREER Occupational Information as it becomes available.

The ECEC will also be responsible for leading, on a part-time basis, the elementary team in the continued development and utilization of career awareness materials during the 1972-1973 school year. This responsibility will include working with any and all elementary teachers as they become interested in the career development approach to education. Attendance at a one-week workshop in January will also be required.

The Summer and Fall of 1973 will be used to evaluate the results of activities during the past school year, revising materials so as to include Project CAREER data, and preparing the K-6 model for inclusion into the Project CAREER pilot program to be run during the 1973-1974 school year. Specific activities will include a full-time 2-3 weeks summer workshop, and part-time writing activities during the Fall of 1973.

Qualifications: The ECEC will have:

- (1) Demonstrated in belief in the dignity of each child;
- (2) Acquired at least three years teaching experience at the elementary level, two of which having been in the present position;
- (3) Demonstrated a willingness to experiment with existing curricular;

- (4) Demonstrated experience in the development of curricular at the elementary level;**
- (5) Demonstrated some facility with the development of behavioral objectives;**
- (6) Experience in group dynamics in the group approach to solving problems;**
- (7) Community demonstrated experience in working with community groups.**

Appendix 2

Title: Project CAREER Junior High School Coordinator - Career Information Center

Period of employment: 6/1/72 to 11/1/73

Salary:

Description of employment: The overall responsibility of the Junior High School Coordinator will be to chair a Junior High Career/Guidance Committee of guidance counselors and curriculum experts representing Grades 7-9. This career counselor will be relieved of department responsibilities during the 1972-1973 school year to coordinate the planned activities of the Junior High Project CAREER/Guidance Committee and devote the necessary time to facilitate program implementation. The responsibility of the Junior High School Coordinator will focus on activities taking place during three time segments: (A) Late Spring and Summer of 1972; (B) The 1972-1973 school year; and (C) The Summer and Fall of 1973.

Activities during the Spring of 1972 will be on a part-time basis. Several orientation meetings will be held with Project CAREER Staff Members and other members of the Junior High School team.

Full-time activities will commence with a five week workshop during July and August. During this time, the major responsibility of the coordinator will be to begin the development of, in conjunction with Project CAREER, a computer-assisted career information center. The ultimate design of this career information center will be such that each student involved in the project will be provided with: (A) Project CAREER classroom occupational experiences; (B) "Hands-on" material designed to assist career decision-making; (C) diagrams, maps, and graphs of specific occupations showing minimum classroom competency achievement levels and related occupational options; (D) Project CAREER performance objective outlines that enable the student to mutually plan and explore clusters of occupations within a broad area of classroom career decisions, and (E) Relevant national, state, and local occupational information in digestable format.

Major emphasis during the summer workshop will be in the collection and development of "hands-on" materials, career information data, and decision-making processes. Data resulting from the Project CAREER Process will be integrated into the Career Information Center as it becomes available during the course of the Project's lifetime.

Further development of the materials outlined above will continue during the Fall of 1972. These materials will be integrated into a workable computer based Career Information Center that will become operational during the second semester of the 1972-1973 school year.

The Summer and Fall of 1973 will be used to evaluate the results of the demonstration activities and to revise materials where necessary. Major activity during this last segment of the Project will be to continue the integration of Project CAREER Data into the Career Information Center in preparation for the Project CAREER Pilot Program to be run during the 1973-1974 school year.

Qualifications: The Project CAREER Junior High School Coordinator:

- (1) Must be interested in the career decisions of students;
- (2) Must have at least five years experience in Junior High Guidance or Teaching, the last three of which having been spent in the present locale;
- (3) Must have some experience in group dynamics and the group approach to solving problems;
- (4) Must demonstrate a willingness to experiment with existing guidance procedures;
- (5) Must demonstrate professional respect from colleagues.
- (6) Must demonstrate experience in working with community groups; and
- (7) Must exhibit some facility with behavioral objectives.

Title: Project CAREER High School Coordinator - Career Information Center

Period of Employment: 6/1/72 to 11/1/73

Salary:

Description of employment: This person will chair a Career/Guidance Committee of High School Counselors and Curriculum experts representing Grades 10-12. This person will be relieved of department responsibilities during the 1972-1973 school year to coordinate the activities of the High School Career/Guidance Committee and devote the necessary time to program implementation.

Involvement during the late Spring of 1972 will be on a part-time basis, and will involve several orientation meetings with Project CAREER Staff Members and others involved in the career information center activity. Full time employment will begin during a five week period in the Summer of 1972. During this time the major activity of the High School Career/Guidance Chairman will be to (A) The development and equipping of a computer-base career information center; and (B) Begin to develop materials designed to facilitate the placement of an exiting student in (1) an entry-level occupation; (2) an advanced skill development program; or (3) an appropriate baccalaureate degree granting institution. Materials developed and collected during the summer period will concentrate on career information, individual decision-making, self-awareness, and, at an elementary stage, awareness of specific job skills needed in a variety of occupations.

Material, collection, and organization will continue during the Fall of the year. Preparations will also be made for the piloting of a computer-based career information center during the Spring semester of the 1972-1973 school year. Continual formative evaluation will take place during the pilot and will be the responsibility of the High School Coordinator.

The Summer and Fall of 1973 will be used to evaluate the results of the Pilot; revise existing materials; to develop new information where necessary; and to develop alternative formats for the career information center. The major activity during this period will be the integration into the Career Information Center of materials that have been collected by the Project CAREER process during the course of the school year. These materials will include: (A) A wide variety of job task information; (B) Bureau of Labor Statistics, Department of Employment Security, Local Employment Projection, and Labor Union Information; (C) Project classroom skill development analyses in behavioral measurable format; (D) Self-concept information including inter-active data related to individual value systems, competency development, and attitudinal maturation; (E) A wide variety of occupations within broad occupational clusters analyzed as to the characteristics of the successful

role incumbent to provide students approaching an entry level occupation with positive role models. A final activity will be the preparation of all materials for inclusion in the Project CAREER demonstration model to be run during the 1973-1974 school year.

Qualifications: The High School Coordinator will have:

- (1) Demonstrated a belief in the dignity of each child;
- (2) At least five years guidance or teaching experience at the Senior High Level, three of which having been in the present locale;
- (3) Experience in group dynamics and the Group approach to solving problems;
- (4) Demonstrated experience in curriculum development at the Senior High Level;
- (5) A willingness to experiment with existing guidance practices;
- (6) Professional respect from colleagues;
- (7) Demonstrated activities in community affairs; and
- (8) Demonstrated some facility in the development of behavioral objectives.

Title: Project CAREER Master Elementary School Teacher (six positions)

Period of Employment: 6/1/72 to 11/1/73

Salary:

Description of employment: The major overall responsibility of this person will be to work with a team of elementary school teachers in the development, utilization, and evaluation of career education units in the elementary grades.

The activities of the Project CAREER Master Elementary School Teacher will fall into three time segments: (A) late Spring and Summer of 1972; (B) the 1972-73 school year; and (C) the Summer and Fall of 1973. One orientation meeting with Project CAREER staff will be held in the late Spring of 1972. This will be followed by a five weeks full-time summer workshop activity. The major tasks of this workshop will be to: (A) evaluate methods of presenting career awareness materials to elementary students; (B) build a K-6 program model for utilizing materials developed during the summer and the ensuing school year; and (C) construct career development units for elementary students, including Project CAREER occupational information as it becomes available.

The Project CAREER Master Elementary School Teacher will also be responsible for utilizing the career awareness materials and units developed during the summer as part of the curriculum during the 1972-1973 school year. Part-time sessions, as well as a week workshop will be used during the school year for revising and recounting of materials, formative evaluation, integrating of Project CAREER materials, etc. Responsibility for working with other elementary teachers interested in the career development approach will be required.

The Summer and Fall of 1973 will be used to evaluate the results of activities during the past school year, revising materials so as to include Project CAREER data, and preparing the K-6 model for inclusion into the Project CAREER pilot program to be run during the 1973-74 school year. Specific activities will include a full-time 2-3 week summer workshop, and part-time writing activities during the Fall of 1973.

Qualifications: This person will have:

- (1) Demonstrated in belief in the dignity of each child.
- (2) Acquired at least three years teaching experience at the elementary level, two of which having been in the present position;

- (3) Demonstrated a willingness to experiment with existing curricula;**
- (4) Demonstrated experience in the development of behavioral objectives;**
- (5) Demonstrated some facility with the development of curricula at the elementary level.**

Appendix 5

Title: Project CAREER Junior High Career Information Committee (2 positions)

Period of employment: 6/1/72 to 11/1/73

Salary:

Description of Employment: This person will function as a member of the Junior High Career/Guidance Committee of guidance counselors and curriculum experts representing Grades 7-9. This committee will, in 18 months: (A) Coordinate for counselors, students, parents, and teachers, Project CAREER measurable skill development information in a wide variety of clustered occupations; (B) Develop an operating conjunction with Project CAREER, a computer-assisted information center. A Junior High Career Information Committee Member will work part-time during the Spring of 1972, and full-time for a five week period during the summer of that year in the development of materials that will help in reaching the goals stated above.

Materials developed by the Junior High Career Information Committee through the Fall of 1972 will provide each student involved in the Project with:

(A) Project CAREER classroom occupational experiences; (B) "Hands-on" material designed to assist career decision-making; (C) Diagrams, maps, and graphs of specific occupations showing minimum classroom competency achievement levels and related occupational options; (D) Project CAREER performance objective outlines that allow the student to manually plan and explore clusters of occupations within a broad area of classroom career decision; and (E) Relevant national, state and local occupational information in digestable format. Project CAREER data related to these objectives will be intergrated into the overall Career Information Center as they become available during the course of the 1972-1973 school year.

A pilot model including the above information will be developed and run during the Spring term of the 1972-1973 school year. The major responsibility of the Junior High Career Information Committee Member during this period will be to monitor the demonstration model, and to revise existing materials where it is necessary. The Summer and Fall of 1973 will be used to evaluate the effectiveness of the pilot model, continue the revision of existing materials, develop new materials when needed, and to include Project CAREER data in preparation for the Project CAREER Pilot Program to be run during the 1973-1974 school year.

Qualifications: The Junior High Committee Member will have:

- (1) Demonstrated belief in the dignity of each child;
- (2) At least three years guidance or teaching experience at the Junior High level, the last two of which having been spent in the present locale;

- (3) Demonstrated a willingness to experiment with existing guidance procedures;**
- (4) Demonstrated competency in curriculum development at the Junior High level; and**
- (5) Demonstrated some facility with the development of behavioral objectives.**

Appendix 6

**Title: Project CAREER Senior High Career Information Committee Member
(2 positions)**

Period of employment: 6/1/72 to 11/1/73

Salary:

Description of employment: This person will serve, during the 1972-1973 school year, on a Career/Guidance Committee of High School Counselors and Curriculum experts representing Grades 10-12. The major responsibility of this committee will be to: (A) Develop and equip a computer-based career information center; (B) To develop materials designed to facilitate the placement of an exiting student in (1) An entry level occupation; (2) An advanced skill development program; or (3) An appropriate baccalaureate degree granting institution.

The Career Information Committee Member will operate on a part-time basis during the late Spring of 1972. Full-time employment will begin with a five week conference and workshop session during the Summer of 1972. During this summer workshop period, the Career Information Committee will begin the development and collection of materials that speak to the objectives stated above. Such materials will emphasize career information, career decision-making, the development of self-awareness, and at an elementary level, job skills needed in a variety of occupations.

The collection and development of materials will continue during the Fall of 1972. Preparations will also be made during this period for the piloting of a computer-based career information center during the spring semester of the 1972-1973 school year. The updating and revisions of materials, as well as continual formative evaluation, will be prime activities during the pilot period.

Activities during the Summer and Fall of 1973 will include the revision of existing materials, development of new data, where needed, and a summative evaluation of the pilot model. The major emphasis during this period will be placed on the integration into the career information center of materials compiled via the Project CAREER Process. Such materials will include: (A) A wide variety of job-task information; (B) Bureau of Labor Statistics, Department of Education Security, Local Employment Projection, and Labor Union Information; (C) Self-concept information including interactive data related to individual value systems, competency development, and attitudinal maturation; (E) A wide variety of occupations within broad occupational clusters analyzed as to the characteristics of the successful role incumbent to provide students approaching an entry level occupation with positive role models. A final objective during this period will be the preparation of all materials for inclusion into the Project CAREER demonstration model to be run during the 1973-1974 school year.

Qualifications: The Senior High Committee Member will have:

- (1) Demonstrated a belief in the dignity of each child;**
- (2) At least three years guidance or teaching experience at the senior high level, the last two having been spent in the present locale;**
- (3) Demonstrated a willingness to experiment with existing guidance procedures;**
- (4) Demonstrated competency in curriculum development at the senior high level; and**
- (5) Demonstrated some facility with the development of behavioral objectives.**

PROJECT CAREER

COMPUTER ASSISTED RESEARCH FOR EDUCATIONAL RELEVANCE

R. CLIFFORD W. EASTON
DIRECTOR

123 NORTH MAIN STREET
RANDOLPH, MASS. 02368
TELEPHONE: 617-963-8653

Appendix 7

JOB DESCRIPTION: CAREER/Guidance Coordinator

Project Title: Project CAREER

Project Goals: The major goals of this project are to expose students at the elementary, the junior high and the senior high levels to a variety of career information sources and decision-making skills such that exposure to the Project CAREER occupational skill development program is a natural outgrowth of career exploration and self-awareness.

General Job Description: The Project CAREER Guidance Coordinator is responsible to and under the cooperative direction of the Project Director and the Project Administrator. The PCGC will be a K-12, inter-L.E.A. coordinator for the development, implementation, and testing of the career guidance models derived within each of the three selected pilot environments.

It will be the responsibility of the Coordinator to work cooperatively with the representative staffs and the selected CAREER Information Committees of each L.E.A. in an effort to develop (a) career information centers; (b) coordinate staff-in-service training programs; (c) oversee the development of operational guidelines and implementation models; and (d) interface as a resource person with the cooperative education, work-study director, and Project Steering Committee in each L.E.A.

Qualifications:

1. The PCGC should have an advanced degree in guidance and counseling services. Other appropriate experiences will be considered.
2. His experience should include a minimum of five years in public school education with specific emphasis where possible in: (1) vocational guidance; (2) administration and supervision; (3) curriculum development; and (4) elementary and secondary teaching.
3. The nature and demands of Project CAREER/Guidance will necessitate a working knowledge of computer services, occupational information, student placement programs, and career education.

4. Facility with writing and using curricular materials in behavioral objective format.
5. Ability and experience in developing and preparing fundable proposals (in such areas as guidance and counseling, curriculum, or a myriad of appropriate innovative educational procedures).
6. Experience in planning and conducting in-service programs (for teachers and/or counselors).
7. Some knowledge of research techniques.
8. Energetic, ambitious, diplomatic.

APPENDIX 8

SUBJECT: The Guidance Component's Utilization of the Behavioral Objective Format

DATE: November 30, 1972

Elementary Behavioral Objective Use

A. Commonality Search Product

1. Those skills common to all occupations provide sequential curriculum foundation.
2. Those skills common to clusters of occupations provide a career awareness foundation.
3. Aid integration of career education materials into various elementary subject areas: i.e., math concepts, science concepts, (concept column becomes an idea bank for the self-contained classroom teacher or the nucleus for interchange with other speciality teachers).
4. Environment suggests tools, i.e., materials students could become familiar with within an occupation, or cluster or larger groupings, Teacher information as to successful instructional presentations becomes techniques bank.
5. Component tasks give teachers a precise view of job preparation operations within a variety of clusters, a cross-section of occupations. (Aid to role playing).
6. Pre-requisite skill column can act as a check as well as a catalyst to the elementary instructor especially in areas of reading, writing, arithmetic.
7. Commonality search output becomes usable for foundation of "hands-on" activities, projects, job or occupational flexibility, a rational check on the value of what is currently being taught, etc.
8. Entry level job skill information becomes interpretive data for the elementary specialist to present accurate occupational information as well as to expand career awareness.

9. Offers possibility of creating new clusters or groups of occupations defined simply by common operational functions.

Junior High Behavioral Objective Use

1. Provides forms for counselors, teachers and students to "tool-up" as to the direct operational demand of employment.
2. Provides major source of accurate occupational information that will become the foundation of course offerings and student exploratory experiences.
3. Provides precise advance information to the counselor and the student who would like to explore in a curriculum cluster area.
4. The student will have the option of surveying many related and also unrelated occupations before he is thinking of a job; before he decides on a course of study.
5. By ordering occupations from Entry Level to technical to professional within a cluster and providing the appropriate competency requirements, educational options and occupation information, a student can dabble with many careers before having to make a decision.
6. By providing the previous information, a student might create a series of career majors. He might role play at entry level. He might want to explore changing jobs.
7. Provides vehicle for counselors, teachers, curriculum experts to play an active and meaningful role together.
8. Provides the opportunity for junior high staff to actively converse with elementary and senior high people.

Senior High Guidance Behavioral Objective Use

1. Basis for precise competency requirement information: for students, counselors, teachers.
2. Non discriminatory in nature so there should no social stigma attached to its use.
3. Aid in planning a course of study for a career.
4. Provides class, course, curriculum, occupation and cluster exploration.

5. Student can identify his instructional career position and plan a route or alternate routes.
6. Nucleus of interdisciplinary curriculum development approach.
7. Relates interrelationships between a wide variety of curriculum areas. (i.e., concepts).
8. Provides data for pre-assessment and post assessment.
9. Spells out, precisely, requirements for job placement
10. Validation and industrial cooperation will aid co-op programs and job placement.
11. Presents on-the-job opportunity or in-service training materials for increasing counselor capabilities.
12. Provides nucleus of materials for precise student follow-ups -- both on the job and in advanced educational programs.
13. Computer capability should facilitate counselor services.
14. Promotes possibilities for infusing individuals with rich backgrounds of experience in business, industry, and labor into the counseling system.
15. A successful program could provide alternate environments for counselor certification; as well as upgrading the vocational knowledge and career guidance skills of currently employed counselors.